

WHAT IS CLAIMED IS:

1. A method of milling a plurality of parallel walls in a workpiece, the method utilizing a milling tool having a plurality of disk milling cutters disposed on a common shaft, each disk milling cutter including a plurality of circumferentially spaced hard-metal cutter inserts that form cutter edges, the method comprising the steps of:

- A) rotating the tool about an axis of rotation;
- B) producing, during step A, relative movement between the workpiece and the tool in a feed direction to bring the disk milling cutters simultaneously into contact with the workpiece; and
- C) continuing the relative movement of step B wherein the disk milling cutters simultaneously cut respective slots in the workpiece, with first cutter edge portions thereof performing a roughing cut, and second cutter edge portions thereof simultaneously performing a finishing cut, to form each slot with parallel walls.

2. The method according to claim 1 wherein the cutter inserts on each disk milling cutter include cutter inserts that are spaced apart both radially and axially, with radially inner ones of the cutter inserts being spaced axially farther from a center line of the respective disk milling cutter than are radially outer ones of the cutter inserts, wherein during step C the radially outermost inserts engage the workpiece prior to the radially innermost inserts.

3. The method according to claim 1 wherein the feed direction is oriented parallel to a bottom of the slots.

4. The method according to claim 1 wherein the feed direction is oriented at an oblique angle to a bottom of the slots.

5. The method according to claim 1 wherein during step A the tool is rotated such that the tool rotates through the workpiece in the direction of feed.

6. The method according to claim 1 wherein during step A the tool is rotated such that the tool rotates through the workpiece in a direction counter to the feed direction.

7. The method according to claim 1 wherein the tool constitutes a first tool, the disk milling cutters comprise first disk milling cutters, and the hard-metal cutter inserts constitute first inserts, the method further comprising the steps of:

D) providing a second tool comprising a pair of second disk milling cutters spaced axially apart and including respective surfaces facing each other in the direction of the axis, each surface carrying a plurality of circumferentially spaced second hard-metal cutter inserts;

E) rotating the second tool about an axis of rotation;

F) producing, during step E, relative movement between the workpiece and the tool in a feed direction, to bring the second disk milling cutters simultaneously into contact with the workpiece; and

G) continuing the relative movement of step F wherein the two second disk milling cutters cut respective axially facing outer faces in the workpiece, the outer faces facing away from one another, with

first cutter edge portions of the second inserts performing a roughing cut, and second cutter edge portions of the second inserts performing a finishing cut.

8. The method according to claim 7 wherein the cutter inserts on each second disk milling cutter include cutter inserts that are spaced apart both radially and axially, with radially inner ones of the second cutter inserts being spaced axially farther from a center line of the respective second disk milling cutter than are radially outer ones of the second cutter inserts, wherein during step F the radially outermost inserts engage the workpiece prior to the radially innermost inserts.

9. The method according to claim 7 wherein steps D-G are performed prior to steps A-C.

10. The method according to claim 7 wherein steps D-G are performed after steps A-C.

11. A method of milling a plurality of parallel walls in a forked root of a turbine blade, the method utilizing a milling tool having a plurality of disk milling cutters disposed on a common shaft, each disk milling cutter including a plurality of circumferentially spaced hard-metal cutter inserts that form cutter edges, the method comprising the steps of:

A) rotating the tool about an axis of rotation;

B) producing, during step A, relative movement between the forked root and the tool in a feed direction to bring the disk milling cutters simultaneously into contact with the forked root; and

C) continuing the relative movement of step B wherein the disk milling cutters simultaneously cut respective slots in the forked root, with first cutter edge portions thereof performing a roughing cut, and second cutter edge portions thereof simultaneously performing a finishing cut, to form each slot with parallel walls.

12. A milling tool for milling a plurality of parallel walls in a workpiece comprising a plurality of disk milling cutters rotatable about a common axis; each disk milling cutter including a plurality of hard metal cutter inserts arranged in circumferentially spaced relationship, each insert defining a rough-cutting circumferential cutter edge portion and a finish-cutting cutter axial edge portion, wherein the disk milling cutters simultaneously perform roughing and finishing cuts.

13. The milling cutter according to claim 12 wherein the cutter inserts comprise sets of circumferentially spaced cutter inserts, the sets being spaced apart in a direction radially with reference to the axis of rotation.

14. The milling tool according to claim 13 wherein a first set of cutter inserts is located closer to the axis than is a second set of the cutter inserts, the first set of cutter inserts being axially offset relative to the second set.

15. The milling tool according to claim 14 wherein the first set is disposed farther from a center line of the respective disk milling cutter than is the second set.

16. The milling tool according to claim 12 wherein each disk milling cutter includes two surfaces facing in opposite axial directions, each of the surfaces carrying some of the cutter inserts.

17. The milling tool according to claim 12 wherein there are only two disk milling cutters, the disk milling cutters forming two respective surfaces that face axially toward one another, each of the two surfaces carrying some of the cutter inserts.

18. The milling tool according to claim 17 wherein an axial spacing between the two disk milling cutters is adjustable.

19. The milling tool according to claim 18 wherein the two disk milling cutters are interconnected by a threaded adjusting sleeve for axially adjusting the two disk milling cutters relative to one another in response to rotation of the sleeve.

20. The milling tool according to claim 12 wherein the disk milling cutters are of identical configuration.

21. The milling tool according to claim 12 wherein the disk milling cutters are arranged such that the cutter inserts of one of the disk milling cutters are angularly offset with respect to the cutter inserts of another of the disk milling cutters.